REMARKS

Claims 1, 7, 9, 13, 15, 17, 22, 24, 27 and 31 have been amended. Claims 1-34 are currently pending in the application.

The Examiner objected to claims 3-5 and 11 because the dependency of the claims was out of order. Applicant respectfully submits the dependencies are correct. Claim 6 states in relevant part "selecting at least one encoding scheme" and claim 3 states "using one of the at least one encoding scheme", which refers to claim 6. Claim 12 states in relevant part "selecting at least one encoding scheme" and claim 11 states "using one of the selected at least one encoding scheme", which refers to claim 12. Claims 4-5 properly refer to claim 7.

The Examiner rejected claims 1-26 under 35 USC § 102(e) as being anticipated by Perino et al (US Patent 6,005,895; hereinafter "Perino"). The Examiner also rejected claims 27-34 under 35 USC § 103(a) as being unpatentable over Perino. These rejections are respectfully traversed and Applicant requests reconsideration of the application.

102(e) Rejection

In order for a reference to anticipate an invention, each and every element of the claimed invention must be found in a single reference. "Moreover, it is incumbent upon the examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference." Ex parte Levy, 17 USPQ2d 1461, 1462 (Bd Pat App & Inter 1990). Applicant respectfully submits that Perino does not anticipate Applicant's claimed invention because Perino does not teach or disclose each and every element of the claimed invention.

Independent claims 1, 9, 15, and 22 each recite, in relevant part, "dividing a plurality of unencoded signals into groups at a first node, wherein each group includes a portion of the unencoded signals". Nothing in Perino teaches this element of the claims. The Examiner claimed Perino taught this element in input 108 in FIG. 1, in input pins 0-4 in FIG. 4, or in Table 3, but Applicant respectfully submits the Examiner is incorrect in this position.

Input 108 in Figure 1 simply illustrates an input signal into translator 100. Figure 1 and its corresponding description do not teach dividing input 108 into groups, where each group contains a portion of the unencoded signals.

Table 3 illustrates the signals generated by detector 104 in response to the conductor signal levels. The Examiner argued the column entitled "Code Source" represents the plurality of unencoded signals while the column entitled "Signal Levels" or "Control Signals" represent the encoded signals. Applicant's claims, however, state "dividing a plurality of unencoded signals into groups at a first node, wherein each group includes a portion of the unencoded signals". And Table 3 in Perino does not teach dividing the "Code Source" signals into groups, where each group includes a portion of the unencoded signals.

The column entitled "Signal Levels" illustrates the combination of signal levels corresponding to the symbols. Table 3 lists six symbols that may be sent across a transmission line having three conductors. To send the symbol "A", a signal level of 2i is sent on the first conductor, a signal level of 1i is sent on the second conductor, and a signal level of 0i is sent on the third conductor. To send the symbol "B", a signal level of 1i is sent on the first conductor, a signal level of 0i is sent on the second conductor, and a signal level of 2i is sent on the third conductor. As can be seen, the permutations

of the three signal levels are different for each symbol. Each of the three signal levels is provided on one of the conductors. Therefore, for every symbol, the sum of the currents flowing on all of the conductors is constant and equal (i.e., $0i + 1i + 2i = 3i$)(see Table 2). Applicant submits that sending particular permutations of signal levels across conductors to maintain a constant signal level in no way teaches "dividing a plurality of unencoded signals into groups at a first node, wherein each group includes a portion of the unencoded signals".

Figure 4 in <u>Perino</u> illustrates an alternate embodiment to that of Figure 1. Figure 4 uses two transmission lines (each having 3 conductors) to transmit data between a source and a destination. Drivers 133, 134 may be constructed as the drivers in Figures 2, 3A, and 5, and Receivers 135, 136 may be constructed as the detectors in Figures 2, 3B, and 6. Table 3, therefore, may illustrate one implementation of the signals generated by a receiver in Figure 4. Applicant's arguments with respect to Table 3 apply here as well. Additionally, nothing in the description of Figure 4 teaches "dividing a plurality of unencoded signals into groups at a first node, wherein each group includes a portion of the unencoded signals".

The Examiner also argued Table 3 in <u>Perino</u> teaches transforming each group of unencoded signals into a group of encoded signals, where each group of encoded signals has nearly a constant, or an equal, number of logic 1's and logic 0's. Applicant respectfully submits this is incorrect. Table 3, and its corresponding discussion, do not teach "transforming each group of unencoded signals into a group of encoded signals, wherein each group of encoded signals has nearly a constant, or an equal, number of logic 1's and logic 0's". In fact, nothing in <u>Perino</u> teaches or suggests this element of Applicant's claims. <u>Perino</u> maintains a constant current on the conductors by providing each signal level on a conductor such that the sum of the currents flowing on all of the

conductors is constant and equal (i.e., $0i + 1i + 2i = 3i$).. For example, current $0i$ is provided on one conductor, current $1i$ on the second conductor, and current $2i$ on the third conductor. Nothing in Perino teaches "transforming each group of unencoded signals into a group of encoded signals, wherein each group of encoded signals has nearly a constant, or an equal, number of logic 1's and logic 0's", as claimed by Applicant.

"Claims in dependent form shall be construed to incorporate by reference all the limitations of the claim incorporated by reference into the dependent claim." 37 CFR 1.75. Therefore, claims 2-8 include all of the limitations of claim 1, claims 10-14 include all of the limitations of claim 9, claims 16-21 include all of the limitations of claim 15, and claims 23-26 include all of the limitations of claim 22. For at least the reasons discussed above, Perino does not anticipate independent claims 1, 9, 15, and 22. Consequently, dependent claims 2-8, 10-14, 16-21, and 23-26 are also not anticipated by Perino.

103(a) Rejection

The Manual of Patent Examining Procedure (MPEP) states the following in Section 2142:

> To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed

combination and the reasonable expectation of success must both
be found in the prior art, and not based on applicant's disclosure.

Applicant submits that <u>Perino</u> does not render Applicant's claims 27-34 obvious because the prior art reference does not meet the three criteria listed above. The discussion below, however, will focus on the third criteria, in that <u>Perino</u> does not teach or suggest all of the claim limitations.
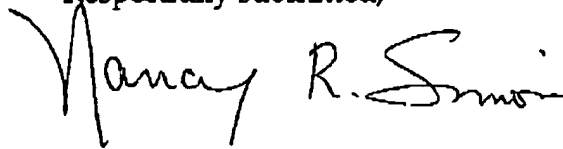
Independent claims 27 and 31 recite, in relevant part, "dividing a plurality of unencoded signals into groups at a first node, wherein each group includes a portion of the unencoded signals" and "transforming each group of unencoded signals into a group of encoded signals, wherein each group of encoded signals has nearly a constant, or an equal, number of logic 1's and logic 0's". <u>Perino</u> does not teach or suggest dividing a plurality of unencoded signals into groups, where each group includes a portion of the unencoded signals. Perino also does not transform each group of unencoded signals into a group of encoded signals, where each group of encoded signals has nearly a constant, or an equal, number of logic 1's and logic 0's. Therefore, Applicant respectfully submits <u>Perino</u> does not render Applicant's claims 27-34 obvious.

Section 2143.03 in the MPEP states when "an independent claim is nonobvious under 35 USC 103, then any claim depending therefrom is nonobvious." As discussed above, independent claims 27 and 31 are not obvious in view of <u>Perino</u>. Consequently, dependent claims 28-30 and 32-34 are also not obvious in view of <u>Perino</u>.

In light of the discussion above, Applicant believes that all claims currently remaining in the application are allowable over the prior art, and respectfully requests allowance of such claims.

Respectfully submitted,

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